

Effect of Mn^{2+} ions on the magnetic microstructure of hexaferrites

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Abstract

Effect of Mn^{2+} ions on the magnetic microstructure of substituted hexaferrites $SrFe_{12} - 2xMnxTixO_{19}$ was studied using the Mössbauer spectroscopy data. A new method is developed for estimating the hyperfine interaction parameters in substituted ferrites, and is based on a quasicontinuous description of their Mössbauer spectra. It is shown that a single substitution of manganese for iron in the second coordination shell of Fe^{3+} changes the local magnetic field strength at this ion by approximately 20 kOe, this value being independent of the concentration of substituted ions. © 2000 MAIK "Nauka/Interperiodica".
